

Flood Resilience Strategy

Consultation Document

May 2024

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1. Introduction

Scotland's climate has changed significantly and will continue to change for decades to come. The biggest climate challenge we face is adapting to our increased exposure to flooding and responding to the impacts this is having on our people, places and activities. We need to learn to live with and adapt to flooding in Scotland.

As part of Scotland's National Adaptation Plan and our wider Just Transition commitments, the Scottish Government is developing a Flood Resilience Strategy which will focus on what we need to do to make our communities more flood resilient over the coming decades.

10 of our hottest years have all come in the last 20 years. A warmer climate means an increase in winter rainfall, which can bring river flooding like we saw last winter in the east of Scotland, and more intense short periods of summer rainfall of the type that causes flooding in our towns and cities when drainage systems and roads are flooded. Warmer global temperatures also contribute to sea level rise which, year-on-year, is increasing our flood exposure and erosion round our coastline.

The Scottish Government has invested £42 million pounds each year and an additional £150 million in the course of this parliament on measures to reduce the impacts of flooding. Starting in 2022, and lasting for four years, the Scottish Government also introduced a new capital budget of £12m available to local authorities to manage coastal change. However, our exposure continues to increase due to climate change. Recent events like Storm Babet have shown that even places like Brechin with established robust flood protection in place can still be flooded in bigger storms. This demonstrates the flood resilience challenge we have in keeping up with our changing climate.

Reducing the impacts of flooding in future will be as much about the design of our places as it is about the design of our flood actions.

To be able to cope with increased floods in the decades ahead we need to start adapting our places to become more flood resilient. This means that we need to look at how we can reduce our flood exposure by all available means and ensure that flooding is considered by a wider range of delivery partners across society. In urban areas, by involving those that design and develop our towns and cities, and in rural areas thinking about how our land use and land management can help reduce flooding impacts.

In the long-term this will include giving space to our rivers and our coastline by gradually moving back from the worst flooded areas and ensuring that activities in those areas are resilient when floods happen. Scotland's National Planning Framework (NPF4) is already strengthening our resilience by promoting avoidance of development in areas that flood and coastal areas which may erode in the future.

The Flood Resilience Strategy aims to move us away from thinking we can “fix flooding problems” to a position where we are working across multiple sectors to create flood resilient places. This means taking all the opportunities we can to reduce our exposure to flooding and to lessen the impact when our places do flood.

Following a programme of engagement with the flooding community and wider stakeholders this consultation document proposes key principles to shape our approach to improving our flood resilience in the decades ahead and suggests a number of big changes which may be necessary to deliver it.

Your response to this consultation will help us develop the strategy. We are seeking your views on the key guiding principles and the actions that we will take to improve our flood resilience in Scotland. To meet the challenge of climate change, action on flooding will need to involve many more people than it has in the past, so your input is vital to help develop a strategy that works for everyone.

Responding to this Consultation

We are inviting responses to this consultation by Tuesday 13 August.

Please respond to this consultation using the Scottish Government’s consultation hub, Citizen Space (<http://consult.gov.scot>). Access and respond to this consultation online at <https://consult.gov.scot/environment-forestry/flood-resilience-strategy-consultation>. You can save and return to your responses while the consultation is still open. Please ensure that consultation responses are submitted before the closing date of Tuesday 13 August.

If you are unable to respond using our consultation hub, please complete the Respondent Information Form and send to:

Flooding Team
Scottish Government
3 J South
Victoria Quay
Edinburgh, EH6 6QQ

Handling your response

If you respond using the consultation hub, you will be directed to the About You page before submitting your response. Please indicate how you wish your response to be handled and, in particular, whether you are content for your response to be published. If you ask for your response not to be published, we will regard it as confidential, and we will treat it accordingly.

All respondents should be aware that the Scottish Government is subject to the provisions of the Freedom of Information (Scotland) Act 2002 and would therefore

have to consider any request made to it under the Act for information relating to responses made to this consultation exercise.

To find out how we handle your personal data, please see our privacy policy: <https://www.gov.scot/privacy/>

Next steps in the process

Where respondents have given permission for their response to be made public, and after we have checked that they contain no potentially defamatory material, responses will be made available to the public at <http://consult.gov.scot>. If you use the consultation hub to respond, you will receive a copy of your response via email.

Following the closing date, all responses will be analysed and considered along with any other available evidence to help us. Responses will be published where we have been given permission to do so. An analysis report will also be made available.

Comments and complaints

If you have any comments about how this consultation exercise has been conducted, please send them to the contact address above or at flooding_mailbox@gov.scot.

Scottish Government consultation process

Consultation is an essential part of the policymaking process. It gives us the opportunity to consider your opinion and expertise on a proposed area of work.

You can find all our consultations online: <http://consult.gov.scot>. Each consultation details the issues under consideration, as well as a way for you to give us your views, either online, by email or by post.

Responses will be analysed and used as part of the decision making process, along with a range of other available information and evidence. We will publish a report of this analysis for every consultation. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review
- inform the development of a particular policy
- help decisions to be made between alternative policy proposals
- be used to finalise legislation before it is implemented

While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.

What is flood resilience?

Flood resilience is about our ability to avoid flooding and, where we can't avoid it, being well prepared, responding well, and recovering quickly from damaging flood events.

Assess – This is about understanding where flooding will occur and what the impacts are when flooding happens. This can help us avoid, prepare and respond to flooding.

Avoid – This is about how we minimise our exposure in areas that flood. This includes avoiding new development in areas that flood and areas which have an erosion risk, and ensuring that essential infrastructure is not impacted by floods. This also includes changing activities in areas that frequently flood. For example, if a community is exposed to frequent flooding, one option to improve its flood resilience in the long term may be to slowly withdraw from the flooded area over time.

Prepare – Where we can't avoid flooding in certain areas we need to prepare. Being prepared includes being aware of our flood exposure, having well-designed places that are adapted to their flood exposure, having good flood forecasting and warning systems in place, being ready to respond and having flood protection in place. This can be large flood protection structures like we have in many of our towns and cities, enhancing natural protection at the coast for example from dunes, or small individual household protection measures such as flood guards. Flood resilience actions are coordinated through Scotland's Flood Risk Management Plans.

Respond – This is what we do when flooding happens to ensure that we stay safe and to minimise the impacts. It includes the actions of the emergency services, other responders and individuals. Our flood forecasting and early warning systems help communities and emergency services to respond. It also includes how we respond after the event by taking into account what we have learned and what we can do differently in future to reduce the impacts next time it happens.

Recover – This is about how quickly we can bounce back after a flood in a way that makes us more resilient to future floods. Our ability to recover will depend on how well we have avoided areas that flood and how well we have prepared and responded. Communities that avoid well, prepare well and respond well will recover well.

Background

The Scottish Government committed to consulting on a new flooding strategy for Scotland in The Programme for Government 2022-2023, to build community flood resilience and engage a broader range of delivery partners to deliver more diverse flood management actions faster.

Over the course of 2023 we have undertaken a programme of engagement, delivered by [Sniffer](#), ClimateXChange and Scottish Flood Forum asking community representatives, practitioners, and researchers what the Flood Resilience Strategy must address.

This included 12 workshops attended by more than 300 people and an online survey that ran over October and November and received 57 responses.

Sniffer produced a report, [Toward's Scotland's Flood Resilience Strategy](#), that captured what people said during those workshops, and we have used this report to help us to structure the proposed strategy.

The Strategy will set the long-term direction and framework for improving our flood resilience both locally and nationally.

It will:

- Communicate the overall change we need to make in how we deal with flooding, from “fixing flooding problems” to creating flood resilient places.
- Lay out the principles we must follow to improve flood resilience in the period ahead.
- Set out the high-level changes required to make this happen.

The Strategy will help Scotland adapt to climate change and will sit alongside Scotland's third National Adaptation Plan (SNAP3), which is due to be published in Autumn 2024.

2. The case for change

This section sets out why we need to change, both to manage our flood exposure, and to reduce the impacts of flooding when it does occur.

Our climate is changing

Through climate change by 2100:

- Sea levels around the coast of Scotland will continue to rise, at a faster rate and are predicted to be at least 80 cm higher and up to 1.90m higher
- Peak rainfall intensities are expected to increase by up to 50%
- Peak river flows are expected to increase by up to 60%

Our flood exposure is increasing

The Scottish Environment Protection Agency (SEPA) report that there are currently an estimated 284,000 properties across Scotland exposed to flooding, and by the 2080s this number is expected to increase by 110,000 through climate change.

Improving our flood resilience is also vital for protecting our essential services, including water, utilities, and transport. The 11 named storms of 2023/2024 have highlighted the significant and costly damage that flooding and storm surges can have on our infrastructure. We know that these impacts will become more severe, so we need to take action now to ensure that we can continue to rely on our essential services as the climate changes.

The pace of response needs to match our increasing exposure

2,000 more properties per year are being exposed to flooding through climate change. Over the last 15 years formal flood protection has been delivered at a rate of approximately 600 properties per year. This reinforces the need for this strategy and an increased rate in delivering improved flood resilience.

The financial impact of flooding is increasing

The Flood Risk Management Plans published by SEPA in 2022 report that the expected cost of flooding impacts in Scotland is now around £260 million per year.

This figure will continue to increase with inflation and as more properties and infrastructure become exposed to flooding through climate change.

River and coastal flood protection schemes are essential in some areas to ensure a level of flood resilience. However they take a long time to plan and build and come at significant cost, which often escalates between initial planning and completed construction.

We are in the early stages of understanding the risks and challenges of coastal erosion and coastal flooding, but we do know that there is a significant challenge in delivering improved resilience for coastal communities.

To provide the best level of flood resilience for all our communities we need to carefully consider approaches to delivery and consider all sources of available funding.

There has been a focus on a limited range of flood management actions

Most of the central flooding budget has traditionally been spent on delivering large river and coastal flood protection schemes for towns and cities. This means that less has been available for other measures such as surface water management, property level flood protection, flood protection for smaller communities or natural flood management.

Flood actions are delivered through a limited range of contributors

Currently, almost all flood management actions are carried out by flooding teams in Local Authorities, Scottish Water and SEPA supported by specialist engineering and technical consultants. This limits what we can deliver to reduce our flood exposure and increase resilience. To ensure our communities are more flood resilient in future, all those involved with the design and development of our towns and cities need to increase flood resilience and reduce flood impacts by all available means.

Flood Management Actions

Through the flood risk management planning process, the Scottish Government currently spends £42 million per year on actions to increase flood resilience. The majority of this money is spent on flood protection schemes, such as the recently opened schemes in Stonehaven and Arbroath.

However, a portion of this money could be spent on a wider range of actions, including blue-green infrastructure, natural flood management, and community flood resilience, all of which would have multiple benefits.

Natural flood management consists of nature-based approaches that involve looking at all the natural and land management opportunities there may be in river catchments and at our coast, to reduce the impact of flooding. This includes things like tree planting, restoring peatlands to soak up water, using natural landforms and land use practices to slow run-off and capture water, making the most of natural floodplains to store water and sand dune restoration and seagrass restoration at our coast. Natural flood management is often used in combination with other flood resilience actions.

Blue-Green Infrastructure (BGI) is used to manage water and reduce flooding in our towns and cities. It refers to incorporating landscape and water design into, often, urban spaces. It is about making the most of urban green spaces and natural water bodies to capture rainwater where it falls and to reduce run-off and reduce water flowing into our drainage systems. It refers to incorporating blue elements, like rivers, ponds, water treatment facilities and green elements, such as trees, parks and land-use planning.

Community Resilience is when communities and individuals are supported so that they can help themselves prepare for, respond to and recover from floods. This can include the funding of community flood groups to start up, train, and purchase equipment. For example, the Edzell Flood Group, formed in 2013, secured funding from Scottish and Southern Energy Networks Resilient Communities Fund for deployable barriers, and through regular training and exercising have prevented their village from flooding again since they were established. Flood warnings allow communities to prepare and respond and are a key part of community resilience.

Everyone can contribute to flood resilience

Everyone can play a part in increasing our flood resilience. For example:

Planners can ensure that our places are designed to be able to cope with increased rainfall and flooding. For example, by preventing development on the floodplain and considering how their decisions can improve the town's flood resilience.

Landscape architects and place designers can ensure that good practice for water management and the design of green space is used at all levels of the design process from Masterplanning through to individual developments.

Scottish Government ensures that relevant policies contribute to our flood resilience. For example, planning policy strengthens our resilience to flooding by promoting avoidance of development in areas that flood and providing information on coastal erosion through [Dynamic Coast](#). Government can also help different groups to join up and collaborate, creating connections that make improving our flood resilience easier. For example, by encouraging climate adaptation planning and ensuring that this includes actions to improve our flood resilience wherever possible. The Government can also direct funding towards a wider range of measures to improve our flood resilience.

Public sector organisations make information on potential flooding readily accessible to help people and partners make informed choices to help themselves. This includes Scotland's flood maps and our flood forecasting and flood warning services provided by SEPA.

Local authorities can support their communities to get involved in decisions about their places, giving them the information and support they need to make their voices heard. Many are taking forward climate adaptation plans to ensure they are ready for their climate challenges and can continue to thrive in our future climate. This includes thinking about how flooding will impact on their communities and what they will need to do to be flood resilient.

A good example of this is [Edinburgh's Water Vision](#) where the local authority is planning for the future by considering how public realm, open space, infrastructure and streets are designed, agreed, constructed and maintained.

Communities can get involved in decisions about their places. They have lots of local knowledge and lived experience that help us make better decisions about what can make them more flood resilient. With the right support, communities and individuals can also help themselves prepare for, respond to and recover from floods.

Land managers, farmers and crofters can contribute to flood resilience through good practice and by helping us deliver natural flood management measures. How we manage and work our land in Scotland influences how water moves through it, so farmers and land managers have a key role in helping us manage river catchments and our coastline to offset our increasing flood exposure.

Transport and utility organisations can contribute through the design and delivery of their networks and services.

Individuals can help too, for example by joining their local flood action group, by using SEPA's flood maps to understand their flood exposure, by investing in flood resilience measures for their properties and by being ready to act when floods happen.

Making small changes at a local level can help reduce flooding impacts too such as ensuring driveways and gardens are made of permeable material to soak up water and that streets and parks have green areas that can allow water to safely drain away without causing flooding. Even installing water butts to capture some rainfall from downpipes can help reduce the impact of heavy rain locally.

The flooding challenge is increasing for future generations

The current approach to flooding, principally focused on flood protection, needs to be re-examined and expanded to ensure that it delivers for future generations. As floods get bigger and happen more frequently it will become more and more difficult to continue to provide protection for those who live in flood prone areas. For those communities most vulnerable to flooding, long-term changes must be considered to make them flood resilient and support them through that process. This will include a slow transition away from those areas most exposed to flooding from rivers and the sea where flood protection could not be sustained in the long term.

We know that our climate is rapidly changing. In 2023, the global average temperature reached 1.5 °C above the pre-industrial baseline for the first time, which is much faster than scientists expected. We therefore urgently need to develop a long-term approach so that we can integrate flood resilience into decisions made about our places as part of our adaptation to climate change.

A key part of this shift to flood resilience is to ensure that everyone understands that we are moving from **'fixing' flooding problems to creating flood resilient places.**

3. Changing the narrative

Moving from fixing flooding problems to creating flood resilient places

Climate change is happening faster than we thought and we must act now to ensure our communities can continue to thrive in the long term. If we don't start the process now, future generations will be left with more to do in a shorter space of time and at greater cost. Our current approach to managing flooding is geared towards trying to fix flooding problems to allow us to continue to do the same things in the same places with a reduced exposure to flooding. However, recent events such as the flood in Brechin in October 2023 show the challenge of protecting flood prone areas in our changing climate.

We must now change how we think about flooding and focus on how we can take all the opportunities available to us to create flood resilient places, reducing our flood exposure and taking actions to lessen the impacts when flooding does occur.

What does flood resilience look like?

How a community develops its flood resilience will vary from place to place depending on their flood exposure, local opportunities, and the needs of their community. For example, in some places, actions could include building blue and green infrastructure such as raingardens, or parks that provide space for water to reduce surface water flooding. In another, this could mean small scale local flood protection or property level flood resilience measures to reduce the impacts of flooding from a small river. In another, it could mean a long-term plan to move properties away from the floodplain of a larger river or a vulnerable coastline where protection cannot be provided.

Developing community flood resilience will require relevant authorities, communities and public and private sector stakeholders to work together in new ways to make this happen. Enabling communities to develop their flood resilience will require access to a wide range of actions and support.

Around the world countries are responding to this in different ways. Here are some examples of what they are doing:

- The Netherlands' [Delta Programme](#), which has overarching responsibility for providing flood risk and freshwater management in the Netherlands and takes a whole-system view, considers how to build climate resilience up to and beyond 2050.
- New Zealand published its first [National Adaptation Plan](#) in 2022, which places significant emphasis on the possibility for managed retreat away from exposed areas;
- London is managing its flood exposure for the long term through the [Thames Estuary 2100](#) programme, which will adapt the estuary to changes resulting from climate change and sea level rise.

Our Engagement

Over the past year we have run workshops and online surveys with communities and stakeholders to find out what big changes we need to make to become flood resilient. We have heard from hundreds of people including community representatives, flood management practitioners and policy officials. We gathered lots of useful information and ideas about what we must do.

Scottish Government worked with our partner organisations Sniffer, ClimateXChange and the Scottish Flood Forum to run the workshops. Sniffer analysed the output and we have distilled all this information into three themes for the Strategy:

People: Involving people in decisions about improving flood resilience in their places and highlighting the contributions individuals can make to community flood resilience.

Places: What changes we must make to our places to increase our flood resilience.

Processes: Making changes to the way we do things and the way we work together to enable us to create flood resilient places.

Guiding Principles

Influenced by our engagement so far, we propose that the following key principles should underpin the Flood Resilience Strategy.

These will guide our approach to dealing with flooding and help us to make the most of all the resources available to us.

1. We will change the focus from 'fixing flooding problems' to creating flood resilient places.
2. Flood resilience is part of community resilience and part of adapting to climate change, so everyone has a role to play.
3. At the heart of our flood resilience activities will lie the principles of a Just Transition (to secure a fairer, greener future for all by working in partnership to deliver fairness and tackle inequality and injustice).
4. Everyone benefits from flood resilient places, and we all have a contribution to make.

Questions

1. Do you support the change from fixing flooding problems to creating flood resilient places? Yes/No - please give the reason(s) for your answer.
2. How can decision makers ensure that actions taken to improve flood resilience align with the aims of a Just Transition to achieve a fairer, greener future?
3. Who do you think has a role in Scotland to help us become more flood resilient and to help us adapt to the impacts of climate change? (Please rank from most to least important)
 - a. Individuals
 - b. Homeowners
 - c. Businesses
 - d. Scottish Government
 - e. Scottish Water
 - f. Local Authorities
 - g. Scottish Environment Protection Agency (SEPA)
 - h. Land owners/land managers
 - i. Farmers and crofters

- j. House builders/developers
- k. Community groups
- l. Other (please specify)

4. Main themes

This part of the consultation outlines the main themes for the Flood Resilience Strategy: **People, Places, and Processes**.

We are seeking your input to each of these themes and have asked questions at the end of each section to capture your views.

People

Flooding has a devastating impact on communities and people. As well as the direct impacts to flooded homes and business, it can disrupt our lives, livelihoods and impact on our physical and mental health for long after the flood event itself.

We are placing people and communities at the centre of the Flood Resilience Strategy. It is vital that people are included in the decision-making process for their places and that they are given the right information and evidence to enable them to meaningfully contribute.

Helping people to understand their exposure to flooding, what actions might help their community become more flood resilient and how they can contribute is a key part of this.

Meaningfully involving communities in decisions about their places is a complex and long-term process that requires commitment, having the right structures in place, and having information that is readily accessible and up to date.

Outcomes

We want to build a flood resilient future where communities are meaningfully included in decisions about their places and have the resources, knowledge and information they require to contribute. Structures will need to be in place to enable this to happen, with mediators and facilitators advising and supporting delivery partners to involve their communities in the process.

In the short term, there are a number of actions that could facilitate meaningful community engagement to help improve flood resilience across Scotland. Communities should be empowered to contribute to decisions about their places through access to high quality, up-to-date information about their current and future flood exposure and the options they have to mitigate it.

One way to work towards this could be by considering how existing data may be best used to support communities and practitioners, to better understand their current and future flood exposure and options that they have for improving their flood resilience.

In the longer term, continuous improvements are needed to how we collaborate with communities. This can be achieved by following the [National Standards for](#)

[Community Engagement](#) and developing support structures that help people to understand and engage with decision making processes through trusted organisations and mediators.

We also need to consider how people and communities can be given the tools, support and knowledge needed to build their own flood resilience, including through property-based resilience measures and through community resilience groups.

This will include raising awareness of how existing resources such as [Ready Scotland's learning hub](#) can help.

Questions

4. What support do communities need to become involved/engaged in climate adaptation and flood resilience planning?
5. What should local authorities be doing to ensure meaningful community participation when taking decisions about improving flood resilience?
6. What would help communities understand their current and future flood exposure and the range of options available to them to help them become more flood resilient? (Please rank from most to least important)
 - a. Access to flood maps showing current and future flood exposure
 - b. Access to local flood history
 - c. Access to information on community “self-help” options.
 - d. Access to flood resilience advice/support
 - e. Access to information on the range of flood resilience options available for their community
 - f. Other (please specify)
7. What actions could **communities** take to improve their flood resilience? (Please rank from most to least important)
 - a. Set up a local community flood resilience group
 - b. Develop a local community flood response plan
 - c. Share local knowledge of what happens during floods with organisations like SEPA and local authorities
 - d. Link up with their local climate action group
 - e. Other (please specify)
8. What actions could **householders/businesses** take to improve their flood resilience? (Please rank from most to least important)
 - a. Learn about flood exposure in their area
 - b. Invest in property resilience measures, such as installing flood gates, raising electrical wall sockets and using flood resilient building materials
 - c. Join a community flood action group
 - d. Sign up to Floodline for flood alerts and warnings
 - e. Seek advice on flood resilience

- f. Make sure they have flood insurance
 - g. Other (please specify)
9. What would **you** do to improve your personal flood resilience? (Please rank by importance)
- a. Find out how exposed you are to floods
 - b. Sign-up to Floodline for flood alerts and warnings
 - c. Have a personal flood plan ready to put into action when flooding is expected
 - d. Ensure you know what to do if your property was to get flooded
 - e. Check your flood exposure before buying or renting a property
 - f. Make sure you have flood insurance
 - g. Other (please specify)

Places

Flood resilience can be improved through better design of our places and management of our river catchments and coastline.

As our villages, towns, and cities change over time we need to work together across sectors to ensure that we take all opportunities to design-in flood resilience improvements.

For example, introducing blue and green infrastructure into our towns and cities can bring multiple benefits including improving flood resilience, biodiversity, water resource management and well-being.

We also need to ensure that we are making the most of our river catchments and coastline to reduce the impacts of flooding. For example, we can use land upstream of flood prone areas, such as peatlands, to capture water and slow down river flows and we can use natural dune systems at our coastline to protect from erosion and flooding.

This section also focuses on actions we should stop doing in our places to ensure that we don't reduce our flood resilience or increase our flood exposure, such as building on floodplains.

Outcomes

We believe that actions taken to build flood resilience should take a place-based approach, with decisions made in a joined-up way across responsible authorities, delivery partners and communities to provide multiple benefits to a community. Planners and developers should consider how their decisions affect flood resilience in both rural and urban areas. Flooding should be routinely taken into account when building things, particularly in urban areas.

For example, a council may want to build a new car park in a town centre to promote the economic development of their high street. However, doing this may mean that

water falling on the surface would run off and potentially cause flooding in the town unless otherwise addressed.

In the shorter term, delivery partners should consider how to adopt a whole-catchment approach to their planning to enable more joined-up decisions about how to manage water effectively. As part of this catchment approach, consideration must be given to urban and rural land use and how to make space for water recognising that water will always want to follow its natural course.

At a household level, making space for water could be something as simple as installing a raingarden to reduce the amount of rainwater entering drainage systems during storms. For a community it could be thinking about how they can reduce the number of properties on the floodplain and at a catchment level this could mean changing land use practices to slow the flow of water into rivers and allow more water to be retained in upland areas.

Making space for water includes using floodplains for natural processes such as holding and conveying water. We would like your views on how we can gradually reduce our flood exposure on floodplains. For example, by reducing the number of properties on floodplains or using floodplains for activities that are flood resilient.

In the longer-term Scottish Government will seek to work collaboratively with planning authorities and councils to ensure that decisions made about a place consider flooding in everything they do, meaning that through any action the flood resilience of a place is increased or, at minimum, not reduced. Using the placemaking principles, we should optimise land use and land management practices for multiple benefits.

Questions

10. How can we ensure that our places are designed to be flood resilient in future?

11. To what extent do you agree that there is a need to make space for water to improve the flood resilience of our villages, towns and cities?

- a. Strongly agree
- b. Mostly agree
- c. Mostly disagree
- d. Strongly disagree

In urban areas, we should make more use of our greenspace and urban watercourses to help manage increased rainfall and reduce the impacts of surface water flooding.

12. Which of the following do you think would be helpful? (Please rank by importance)

- a. Increasing the use of sustainable drainage systems

- b. Creating blue and green drainage networks to enhance existing drainage systems
- c. Using available greenspace such parks and sports pitches to help soak up and store water in the heaviest rainfall events to prevent drainage systems becoming overwhelmed
- d. Creating raingardens in public parks and streets
- e. Other (please specify)

If we are to make more use of our river catchments and coastal areas to increase our flood resilience,

13. Which of the following do you think would be helpful? (Please rank by importance)

- a. Using soil, and land management techniques to slow down the flow of water and increase infiltration and water retention
- b. Using river and floodplain management techniques such as re-introducing meanders to rivers to slow flow and enhancing floodplains and wetlands to increase storage
- c. Increasing woodland to help intercept, slow and store water throughout a catchment
- d. Restoring peatlands to absorb, store and release water slowly.
- e. Enhancing natural dune systems to maintain a natural barrier that reduces the risk of tidal inundation
- f. Managing saltmarsh and mudflats in estuaries to store water and dissipate wave energy
- g. Other (please specify)

Properties on floodplains will become increasingly exposed to flooding with climate change. Communities in some areas around our coast will also have an increased exposure to flooding where the combined impacts of sea level rise and coastal erosion come together.

It may not be possible for the most exposed communities to maintain a level of flood resilience indefinitely and alternative long-term planning needs to take place.

14. Should moving communities away from areas with the highest exposure be considered as an option?

Yes/No - please give the reason(s) for your answer.

Processes

To make the shift from fixing flooding problems to creating flood resilient places we need to adapt the processes that we go through when making decisions related to flooding. This will include making changes to:

- The way we work together.
- How we provide support for delivery partners to deliver a broader range of actions.
- How things are funded and what actions we spend our available funding on.

Outcomes

We want to ensure that the processes in place to improve flood resilience make the best use of resources we have available and deliver multiple benefits for places and communities. We also want to make sure that everyone involved in flooding in Scotland has access to the information and support that they need to contribute.

Supporting delivery partners

To make the shift from fixing flooding problems to creating flood resilient places communities and delivery partners will need access to advice and support.

This is especially important if we want to enable a broader range of delivery partners to contribute to flood resilience in Scotland.

Here in Scotland we have an excellent knowledge and skills base within the 36 flood management responsible authorities – the 32 local authorities, SEPA, Scottish Water and the two national parks. We are keen to hear views on how we can create greater efficiency, consistency and value, and how we can become better at sharing our knowledge, skills and experience across this group. We would like to hear from you whether there is any value in realigning, clarifying or modifying the roles across these partners to support this.

Making the change from fixing flooding problems to creating flood resilient places will require sharing advice, knowledge, skills and best practice between delivery partners on topics including:

- Embedding flood resilience in the design of our places
- Community involvement
- Climate adaptation
- Coastal erosion
- Flood resilience options
- Early design of actions
- Natural flood management
- Blue and Green infrastructure
- Funding options

Funding

The cost of flooding impacts and of implementing flood measures continues to increase, so it is critical that we make the most of our available resources to have the greatest impact on our outcomes and seek to widen the sources of funding available to improve flood resilience. Under the current flood risk management legislation, and the “fixing flooding problems” approach, Scottish Government and local authority flooding budgets are largely focused on flood protection schemes such as those completed recently for Stonehaven, Arbroath, and Caol and Lochyside.

Shifting the narrative to “creating flood resilient places” widens the number of flood resilience actions that can be taken forward and may provide opportunities to better connect budgets for multiple benefits and widen sources of funding available beyond Scottish Government and local authorities. For example, urban regeneration projects- joint funded by developers and local authorities can reduce flood exposure through good design and urban greenspace projects can be combined with flood storage to reduce flood impacts. Making this change will require providing information, support and guidance to communities and flood management organisations.

The Scottish Government is also working with COSLA, the voice of Local Government in Scotland, to reform the current approach to funding flood resilience actions. In particular to see how we can increase the affordability of flood protection schemes and consider what other actions can be taken forward in combination with flood protection schemes to improve our flood resilience. This work is ongoing in parallel to developing this strategy. The initial focus of the work is on the affordability of the flood protection schemes we are already committed to deliver and how we can improve how schemes are funded and delivered in future. Part of this work with COSLA is considering what other flood resilience actions should be funded and this consultation has the opportunity to influence that work.

What does the Scottish Government currently spend the flooding budget on?

The Scottish Government has allocated £42 million per year, plus £150 million until the end of this parliament, for local authorities to spend on measures to manage their flood risk. This is largely spent on **Flood Protection Schemes**, which include those at Stonehaven, Brechin, and Caol and Lochyside. Further funding supports the operations of the Scottish Flood Forum, which provides advice and support for people that have been flooded, and flood forecasting and warning services, provided by SEPA. Additionally, £12m is being provided over four years to support coastal change adaptation. All of these elements are very important for reducing our flood exposure, but we are keen to take views on whether a portion of this funding would have a greater impact if it was redistributed to other actions, such as towards a property flood protection grant, natural flood management measures or training and equipping community resilience groups.

Questions

To distribute available funding across a wider range of flood resilience actions would potentially mean reducing spending on new large flood protection schemes.

15. How might information, guidance, direction and technical support be provided for communities and flood management organisations?
16. How can we improve efficiency, consistency and value in delivering flood actions?
17. Other than large flood protection schemes, what other flood resilience actions should we focus on supporting/spending available funding on? (Please rank by importance)
 - a. Maintaining existing flood protection
 - b. Small flood protection schemes
 - c. Natural flood management
 - d. Blue and green infrastructure (e.g. multi-purpose green space, such as floodable sports pitches)
 - e. Flood forecasting and warning
 - f. Property level flood resilience measures
 - g. Supporting local community flood resilience groups
 - h. None – all funding should be spent on large flood protection schemes
 - i. Other (please specify)

18. Do you think there is enough evidence and information to support the delivery of a broader range of flood resilience actions? Yes/No –

If No, please let us know what you think our evidence and information gaps are.

19. What other funding sources or mechanisms could be used to support flood resilience? (Please rank by importance)
 - a. Financial contributions from those who directly benefit from improved flood resilience (e.g. private sector/businesses)
 - b. All new development makes a contribution to improving flood resilience
 - c. Support natural flood management through payments to farmers, crofters and land managers (for example, Forestry Grant Scheme, the future agricultural support framework or PeatlandACTION payments)
 - d. Other (please specify)

And finally:

20. What is your main concern about flooding?
21. What one thing would do the most to improve Scotland's flood resilience?

Annex A: Glossary/Definitions

Adaptation Scotland Programme

Adaptation Scotland is a programme initiated by the Scottish Government to address the challenges posed by climate change. It focuses on enhancing Scotland's resilience and preparedness for the impacts of a changing climate.

Annual Average Damages (AADs)

Annual average damages (AADs) are the theoretical average economic damages caused by flooding when considered over a very long period of time. It does not mean that level of damage will occur every year: in many years there will be no damages, in some years minor damages and in a few years major damages may occur.

Biodiversity

Short for biological diversity. The number and types of plants and animals that exist in a particular area. Biodiversity is central to all of our lives and it is now very widely accepted that biodiversity is in crisis, both globally and in Scotland.

[Biodiversity strategy to 2045: tackling the nature emergency](#)

Blue and green infrastructure

The combination of blue and green infrastructure.

Blue infrastructure

Water environment features within the natural and built environments that provide a range of ecosystem services. Blue features include rivers, lochs, wetlands, canals, other water courses, ponds, coastal and marine areas including beaches, porous paving, sustainable urban drainage systems and raingardens.

Green infrastructure

Features or spaces within the natural and built environments that provide a range of ecosystem services.

Blue and green drainage networks

Connected areas of blue and green infrastructure, sustainable drainage systems and open space, that together form an integrated drainage system. These work side-by-side with manmade drainage infrastructure such as roads drainage and sewer systems to improve the drainage of urban areas to reduce flooding.

Catchment

The area of land and the water collected in it, especially the collection of rainfall over a natural drainage area. For example, a river catchment is the area of land drained by a river and all its tributaries. The catchment area may include hill slopes and floodplains, lochs, forests, agricultural fields and urban areas.

ClimateXChange

Scotland's centre of expertise on climate change.

[ClimateXChange | Scotland's centre of expertise on climate change](#)

Coastal Erosion

More Information about coastal erosion can be found at [Dynamic Coast](#).

Community Flood Resilience Group(s)

Local groups reflecting the interests of their communities. these differ from area to area, depending on the particular issues faced by communities. Scottish Flood Forum provide help and ongoing support to such groups in flood risk areas.

[Improving Flood Resilience Through Community Action - SFF](#)

Edinburgh's Water Vision

The City of Edinburgh Council's long-term and sustainable approach to river, coastal and storm water management across the city and its environs, respecting its unique historic heritage. It involves all stakeholders with the aim of addressing the flooding and water quality risks associated with our changing climate as a result of changes in rainfall and sea level rise.

[Edinburgh's Water Vision – Planning Edinburgh](#)

Edzell Flood Group

A local flood action group set up by residents in Edzell in Angus. The group works together as a community to reduce the flooding impacts in Edzell.

Flood Risk Management (Scotland) Act 2009

An Act of the Scottish Parliament to make provision about the assessment and sustainable management of flood risks, including provision for implementing European Parliament and Council Directive 2007/60/EC; to make provision about local authorities' and the Scottish Environment Protection Agency's functions in relation to flood risk management; to amend the Reservoirs Act 1975; and for connected purposes.

[Flood Risk Management \(Scotland\) Act 2009](#)

Flooding in Scotland – Who does what?

The Flood Risk Management (Scotland) Act 2009 allocates clear [roles and responsibilities](#) for managing flood risk in Scotland, in which we work in partnership with SEPA, local authorities, Scottish Water and other responsible authorities including the Loch Lomond and Trossachs National Park Authority and Cairngorms National Park Authority.

Floodline

Floodline provides live flooding information and advice on how to prepare for or cope with the impacts of flooding 24 hours a day, 7 days a week.

[Floodline | Scottish Environment Protection Agency \(SEPA\)](#)

Greenspace

Space, other than agricultural land, which serves or could serve a recreational or an amenity function for the public, or provides aesthetic value to the public including parks, gardens, playing fields, children's play areas, woods and other natural areas, grassed areas, cemeteries and allotments, green corridors like paths, disused railway lines, rivers and canals, derelict, vacant and contaminated land which has the potential to be transformed.

Just Transition

Is how we secure a fairer, greener future for all by working in partnership to deliver fairness and tackle inequality and injustice.

Large flood protection structures

Larger flood protection schemes for urban areas are delivered by local authorities under the Flood Risk Management (Scotland) Act 2009.

An example is the recently completed Stonehaven flood protection scheme.

[Stonehaven Flood Protection Scheme - Aberdeenshire Council](#)

Make space for water

The process of understanding where water will naturally go and considering how we can make space for it. Making space for water is particularly useful in terms of increasing our flood resilience by reducing our exposure to flooding.

Masterplanning

Strategic planning for an area proposed to be regenerated or changed in order to meet a perceived challenge or strategic need.

Multiple benefits

In the context of flood resilience, multiple benefits refers to the actions we take to make places more flood resilient that also deliver other benefits for communities. For example, natural flood management can improve flood resilience, habitat,

biodiversity, increase green space in our towns and cities, and contribute to our health and well-being.

National Standards for Community Engagement

The National Standards for Community Engagement are good-practice principles designed to improve and guide the process of community engagement.

[National Standards for Community Engagement | SCDC - We believe communities matter](#)

Natural flood management (NFM)

Using natural processes to reduce the risk of flooding. These measures protect, restore, and mimic the natural functions of catchments, floodplains and the coast to slow and store water and dissipate wave energy.

NFM measures can include soil and land management, river and floodplain management, woodland management, run-off management and coast and estuary management.

Place-based approach

A place-based approach is about understanding the issues, interconnections and relationships in a place and coordinating action and investment to improve the quality of life for that community.

[Place Based Approaches | Our Place](#)

Placemaking

The process of creating good quality places that promotes people's health, happiness and wellbeing. It concerns the environment in which we live; the people that inhabit these spaces; and the quality of life that comes from the interaction of people and their surroundings. Placemaking is a collaborative approach involving the design and development of places over time, with people and communities central to the process.

Public body

A formally established organisation that is publicly funded to deliver a public or government service.

Raingarden

A garden that lies below the level of its surroundings, designed to absorb rainwater that runs off from a surface such as a patio or roof.

Run-off

This refers to water running across a surface before it enters a drain or watercourse. For example, during heavy rainfall more water may fall onto a field than can soak into the soil. The water that can't soak in will run off.

Scotland's Flood Risk Management Plans

Are Scotland's route map for increasing community flood resilience. They are key to Scotland's health, wellbeing and economic success, with an estimated 284,000 homes, businesses and services identified as at risk of flooding. The plans are also an important response to the climate emergency, as the number of homes businesses and services at risk of flooding are projected to increase by an estimated 110,000 by the 2080s. SEPA leads Scotland's flood risk management planning process. The plans outline the long-term ambition for increasing flood resilience by setting objectives and identifying actions.

[Flood Risk Management Plans | SEPA](#)

Scotland's National Planning Framework 4

National Planning Framework 4 (NPF4) is Scottish Government's national spatial strategy for Scotland. It sets out spatial principles, regional priorities, national developments and national planning policy.

[Supporting documents - National Planning Framework 4](#)

Scottish Environment Protection Agency (SEPA)

Scotland's national flood forecasting, flood warning and strategic flood risk management authority.

[Flooding | Scottish Environment Protection Agency \(SEPA\)](#)

Scottish Flood Forum

The Scottish Flood Forum is an independent organisation which supports individuals and communities at risk from flooding.

[The Scottish Flood Forum - Supporting Flood Risk Communities](#)

Scottish National Adaptation Plan 3

The climate adaptation plan for Scotland covering the period 2024-2029. Currently in draft form, this document was available for public consultation between 31 January and 24 April 2024.

[Scottish Government consultations - Citizen Space](#)

Scottish and Southern Energy Networks Resilient Communities Fund

Scottish and Southern Energy Networks Resilient Communities Fund's core aim is to help communities become more resilient in the face of storms, severe weather and prolonged power interruptions.

[Resilient Communities Fund - SSEN](#)

Sniffer

Sniffer is an organisation helping Scotland get ready for the impacts of climate change by raising awareness of climate risks and opportunities and creating catalysts for collaborative action through the Adaptation Scotland Programme.

[Sniffer](#)

Sustainable drainage systems (SuDS)

Are a natural approach to managing drainage in and around properties and developments. They work by slowing and holding back water that runs off from a site. They help manage and control surface water.

[Sustainable drainage \(susdrain.org\)](http://susdrain.org)

Transport and utility organisations

This includes road and rail, ports and harbours, electricity, gas and water service providers.

Water body

Is a certain, clearly distinguishable part of surface water, such as the sea, a loch, a pond, a wetland, a stream, river or a part of a stream or river.

Water butt

A container for storing rainwater which can then be used to water gardens or clean driveways etc.

Watercourse

A natural or artificial channel through which water flows. This could be a river, canal etc.

Annex B: Respondent Information Form



*Flood Resilience Strategy Public Consultation

Respondent Information Form

Please Note this form **must** be completed and returned with your response.

To find out how we handle your personal data, please see our privacy policy:
<https://www.gov.scot/privacy/>

Are you responding as an individual or an organisation?

- Individual
 Organisation

Full name or organisation's name

Phone number

Address

Postcode

Email Address

The Scottish Government would like your permission to publish your consultation response. Please indicate your publishing preference:

- Publish response with name
 Publish response only (without name)
 Do not publish response

Information for organisations:

The option 'Publish response only (without name)' is available for individual respondents only. If this option is selected, the organisation name will still be published.

If you choose the option 'Do not publish response', your organisation name may still be listed as having responded to the consultation in, for example, the analysis report.

We will share your response internally with other Scottish Government policy teams who may be addressing the issues you discuss. They may wish to contact you again

in the future, but we require your permission to do so. Are you content for Scottish Government to contact you again in relation to this consultation exercise?

Yes

No

Questionnaire

Question 1

Do you support the change from fixing flooding problems to creating flood resilient places?

- Yes
- No

Please give reasons for your answer.

Question 2

How can decision makers ensure that actions taken to improve flood resilience align with the aims of a Just Transition to achieve a fairer, greener future?

Question 3

Who do you think has a role in Scotland to help us become more flood resilient and to help us adapt to the impacts of climate change?

Please rank from 1-12, where 1 is the most important.

- Individuals
- Homeowners
- Businesses
- Scottish Government
- Scottish Water

- Local Authorities
- Scottish Environment Protection Agency (SEPA)
- Land owners/land managers
- Farmers and crofters
- Housebuilders/developers
- Community groups
- Others (please specify)

If you selected 'Other', please specify your answer.

Question 4

What support do communities need to become involved/engaged in climate adaptation and flood resilience planning?

Question 5

What should local authorities be doing to ensure meaningful community participation when taking decisions about improving flood resilience?

Question 6

What would help communities understand their current and future flood exposure and the range of options available to them to help them become more flood resilient?

Please rank from 1-6, where 1 is the most important.

- Access to flood maps showing current and future flood exposure

- Access to local flood history
- Access to information on community “self-help” options.
- Access to flood resilience advice/support
- Access to information on the range of flood resilience options available for their community
- Others (please specify)

If you selected ‘Other’, please specify your answer.

Question 7

What actions could **communities** take to improve their flood resilience?

Please rank from 1-5, where 1 is the most important.

- Set up a local community flood resilience group
- Develop a local community flood response plan
- Share local knowledge of what happens during floods with organisations like SEPA and local authorities
- Link up with their local climate action group
- Others (please specify)

If you selected ‘Other’, please specify your answer.

Question 8

What actions could **householders/businesses** take to improve their flood resilience?

Please rank from 1-7, where 1 is the most important.

- Learn about flood exposure in their area
- Invest in property resilience measures, such as installing flood gates, raising electrical wall sockets and using flood resilient building materials.
- Join a community flood action group
- Sign up to Floodline for flood alerts and warnings
- Seek advice on flood resilience

- Make sure they have flood insurance
- Other (please specify)

If you selected 'Other', please specify your answer.

Question 9

What would **you** do to improve your personal flood resilience? (Please rank by importance)

Please rank from 1-7, where 1 is the most important.

- Find out how exposed you are to floods
- Sign up to Floodline for flood alerts and warnings
- Have a personal flood plan ready to put into action when flooding is expected
- Ensure you know what to do if your property was to get flooded
- Check your flood exposure before buying or renting a property
- Make sure you have flood insurance
- Other (please specify)

If you selected 'Other', please specify your answer.

Question 10

How can we ensure that our places are designed to be flood resilient in future?

Question 11

To what extent do you agree that there is a need to make space for water to improve the flood resilience of our villages, towns and cities?

- Strongly agree
- Mostly agree
- Mostly disagree
- Strongly disagree

Question 12

In urban areas, we should make more use of our greenspace and urban watercourses to help manage increased rainfall and reduce the impacts of surface water flooding.

Which of the following do you think would be helpful?

Please rank from 1-5, where 1 is the most important.

- Increasing the use of sustainable drainage systems
- Creating blue and green drainage networks to enhance existing drainage systems
- Using available greenspace such parks and sports pitches to help soak up and store water in the heaviest rainfall events to prevent drainage systems becoming overwhelmed
- Creating raingardens in public parks and streets
- Other (please specify)

If you selected 'Other', please specify your answer.

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Question 13

If we are to make more use of our river catchments and coastal areas to increase our flood resilience,

Which of the following do you think would be helpful?

Please rank from 1-7, where 1 is the most important.

- Using soil, and land management techniques to slow down the flow of water and increase infiltration and water retention.
- Using river and floodplain management techniques such as re-introducing meanders to rivers to slow flow and enhancing floodplains and wetlands to increase storage.
- Increasing woodland to help intercept, slow and store water throughout a catchment.
- Restoring peatlands to absorb, store and release water slowly.
- Enhancing natural dune systems to maintain a natural barrier that reduces the risk of tidal inundation
- Managing saltmarsh and mudflats in estuaries to store water and dissipate wave energy.
- Other (please specify)

If you selected 'Other', please specify your answer.

Question 14

Should moving communities away from areas with the highest flood exposure be considered as an option?

- Yes
- No

Please give reasons for your answer.

Question 15

How might information, guidance, direction and technical support be provided for communities and flood management organisations?

Question 16

How can we improve efficiency, consistency and value in delivering flood actions?

Question 17

Other than large flood protection schemes, what other flood resilience actions should we focus on supporting/spending available funding on?

Please rank from 1-9, where 1 is the most important.

- Maintaining existing flood protection
- Small flood protection schemes
- Natural flood management
- Blue and green infrastructure (e.g. multi-purpose green space, such as floodable sports pitches)
- Flood forecasting and warning
- Property level flood resilience measures
- Supporting local community flood resilience groups
- None – all funding should be spent on large flood protection schemes
- Other (please specify)

If you selected 'Other', please specify your answer.

Question 18

Do you think there is enough evidence and information to support the delivery of a broader range of flood resilience actions?

- Yes
- No

If No, please let us know what you think our evidence and information gaps are.

Question 19

What other funding sources or mechanisms could be used to support flood resilience?

Please rank from 1-4, where 1 is the most important.

- Financial contributions from those who directly benefit from improved flood resilience (e.g. private sector/business)
- All new development makes a contribution to improving flood resilience.
- Support natural flood management through payments to farmers, crofters and land managers (for example, Forestry Grant Scheme, the future agricultural support framework or PeatlandACTION payments)
- Other (please specify)

If you selected 'Other', please specify your answer.

And finally,

Question 20

What is your main concern about flooding?

Question 21

What one thing would do the most to improve Scotland's flood resilience?



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